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LogView

User's Guide

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Table of Contents:

1. Installing LogView 1
1.1 Installing LogView: 1

2. Starting LogView for the first time 3

3. Connecting to a datalogger 13
3.1 LC-2 RS-232 Connection (8002-1-1, 8002-1A-1, 8002-4-1, 8002-16-1): 13
3.2 LC-2 USB Connection (8002-1-2, 8002-1A-2, 8002-4-2, 8002-16-2): 13
3.3 Determining COM Port Numbers: 13
3.4 Establishing a Connection: 14

4. Collecting and Viewing Data 17

5. Creating a Datalogger Network (RS-485) 22

6. Connecting to Networked Dataloggers 23

Table of Figures:

Figure 1 - Extract file dialog……1
Figure 2 - LogView already installed warning 2
Figure 3 - Workspace Name..... 3
Figure 4 - Workspace Folder 4
Figure 5 - Main Window 5
Figure 6 - Context Menu 5
Figure 7 - Project Settings..... 5
Figure 8 - Project Explorer with Project added..... 6
Figure 9 - Datalogger Settings..... 7
Figure 10 - Workspace, Project and Datalogger 8
Figure 11 - Adding a Sensor..... 9
Figure 12 - Sensor Settings..... 10
Figure 13 - Output calculation method help dialog 10
Figure 14 - Thermal factor help dialog 11
Figure 15 - Units conversion application warning 11
Figure 16 - Workspace, Project, Datalogger and Sensor..... 12
Figure 17 - RS-232 Serial COM Ports..... 13
Figure 18 - USB COM Ports 14
Figure 19 - Datalogger Settings..... 15
Figure 20 - Connection Options..... 15
Figure 21 - Connection Warning Message..... 16
Figure 22: Data Collection Options……..16
Figure 23: Collect Data button enabled……17
Figure 24: New data downloading……17
Figure 25: Data collection complete message……...18
Figure 26: Viewing data inside of LogView……..18
Figure 27: Export data files menu……19
Figure 28: Data Export settings……20
Figure 29 - Network Group..... 21
Figure 30 - Networked Datalogger Settings..... 22
Figure 31 - Network Connection Option..... 23
Figure 32 - Network Group Component Connections..... 24

1. Installing LogView

This manual is intended to facilitate the installation, launching and configuration of LogView. It is not intended to be a substitute for the on-line manual or for the datalogger user's manuals.

Please consult the LogView Online Help and the individual datalogger's manuals for more detailed information regarding the operation of LogView and the LC-n series dataloggers.

1.1 Installing LogView

The LogView installer is only available as a .zip file which can be downloaded from our website. The latest version will be available there, as well as a "New Features and Fixes" page where you can view its development.

Please visit the following webpage to download it: http://www.geokon.com/software.

When prompted, choose to "Save file." When download is complete, right click on your new "LogViewSetup.zip" file and select "Extract all." This will display a message asking you to "Select a Destination and Extract Files" (Figure 1.) By default, it will create a new folder in the same location you saved it to. After choosing the destination folder, click the "Extract" button at the bottom of the window.

TIP: Make sure the box to "Show extracted files when complete," is checked. This opens the folder right up so you do not have to look for it.

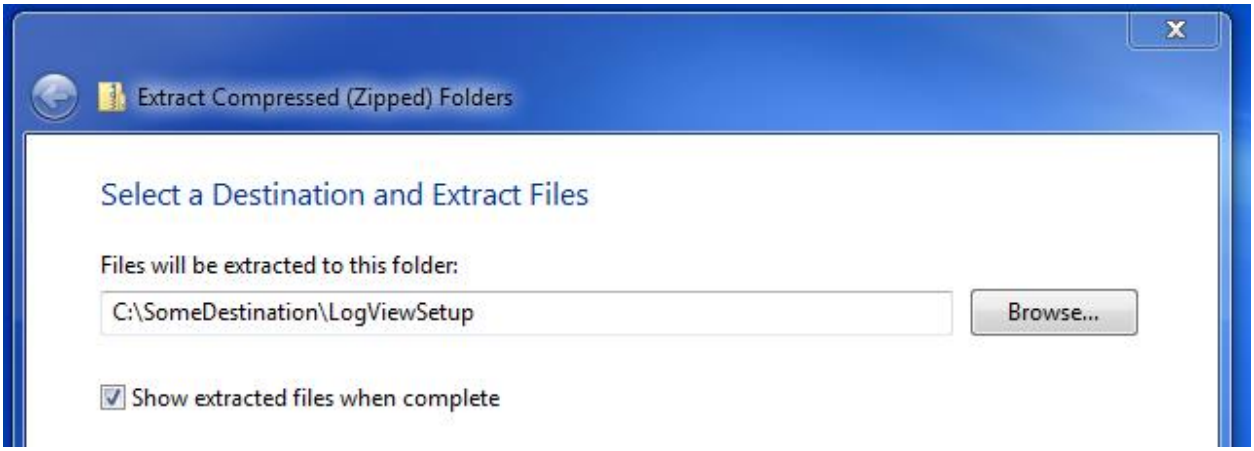

Extract Compressed (Zipped) Folders
Select a Destination and Extract Files
Files will be extracted to this folder:
C:\SomeDestination\LogViewSetup
Browse...
Show extracted files when complete

Figure 1 - Extract file dialog

If you are installing LogView for the first time, you will need the USB drivers used to communicate with the 8003-2-2. By double clicking on the "start.bat" file, both the drivers and LogView will be installed. Follow the prompts for each installer.

To install the latest version of LogView only, double click on the file "setupLV_3_0_0_0000.exe" and follow the prompts, (the numbers may be different depending on the version number.)

NOTE: The LogView Installer checks to see if there is any other version installed and, if so, the following dialog box is displayed:

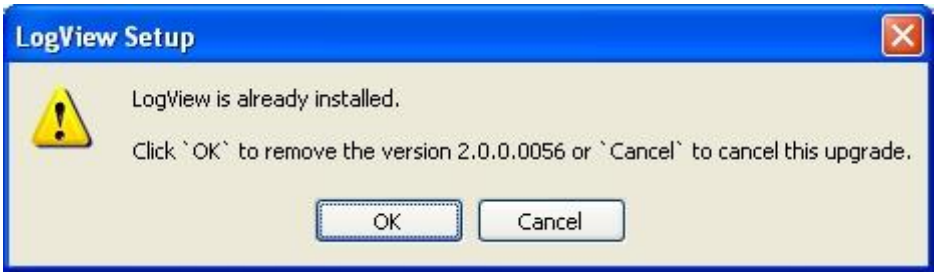

LogView Setup
LogView is already installed.
Click `OK` to remove the version 2.0.0.0056 or `Cancel` to cancel this upgrade.
OK
Cancel

Figure 2 - LogView already installed warning

To install the drivers only, double click on the "CDMv2_12_00_WHQLCertified.exe" and follow the prompts, (the numbers may be different depending on the version number.)

NOTE: The USB drivers are only required for LC-2xN models 8002-N-2, 8002-5 (RS-485 interface) and LC-3x2 model 8003-2-2. Communication with an 8002-N-1 and 8003-2-1 requires either an internal COM port or a USB-to-Serial converter (which may require its own drivers). A PC re-boot may be required before the new drivers will take effect.

2. Starting LogView for the first time

Launching LogView is easy and can be accomplished two different ways. Double clicking on the desktop icon:

Or via the Start button:

Programs -> Geokon -> LogView

When you open LogView for the first time, you will be prompted to create a workspace. A workspace is a place where all other LogView resources are stored and contains one or more projects along with dataloggers, sensors and data files. LogView allows multiple workspaces to be defined so that projects may be logically grouped together, i.e., a company may have multiple work-sites and for each work-site there may be multiple projects under way.

Workspaces can also be used to allow different users to keep their projects and data separate from others when sharing a PC.

The first dialog prompt is for the workspace name. The name can be any combination of letters and numbers and, ideally, will be descriptive in nature (see Figure 3).

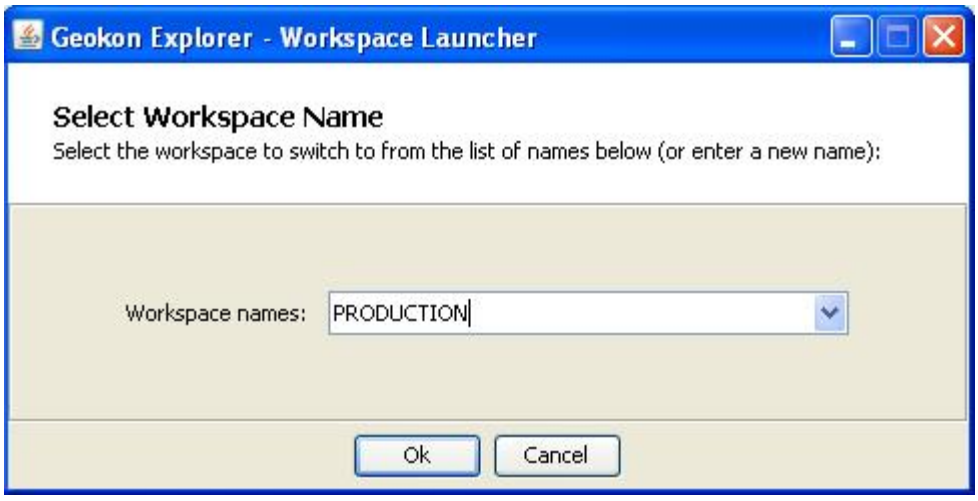

Geokon Explorer - Workspace Launcher
Select Workspace Name
Select the workspace to switch to from the list of names below (or enter a new name):
Workspace names:
PRODUCTION
Ok
Cancel

Figure 3 - Workspace Name

Once the workspace name has been selected, the next prompt will be to choose or create a folder where all the workspace elements will be stored. As can be seen in Figure 4 below, the default workspace location is in a folder name the same as the workspace name under a special shared folder reserved for workspaces. In Windows XP this folder is located at:

C:\Documents and Settings\All Users\Shared Documents\Geokon\LogView\Workspaces

For Vista and Windows 7 the default folder is located at:

C:\Users\Public\Public Documents\Geokon\LogView\Workspaces

LogView appends the name of the new workspace to this shared folder and uses it as the default location for the new workspace. The user is free to select a different location, either by entering it directly, or the Browse button may be used to navigate to a different folder location or to create a new folder. This workspace location will be stored in the LogView configuration file for subsequent application access. After workspaces are created, all future user access to a workspace is always by name.

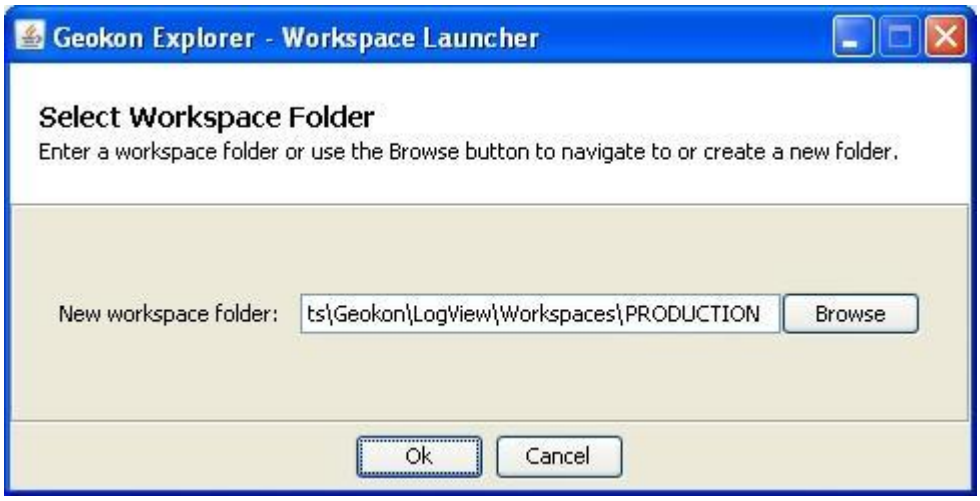

Geokon Explorer - Workspace Launcher
Select Workspace Folder
Enter a workspace folder or use the Browse button to navigate to or create a new folder.
New workspace folder:
ts\Geokon\LogView\Workspaces\PRODUCTION
Browse
Ok
Cancel

Figure 4 - Workspace Folder

That's all that is required to create an initial workspace. Figure 5 below illustrates LogView's main window and shows the new workspace, PRODUCTION, in the Project Explorer:

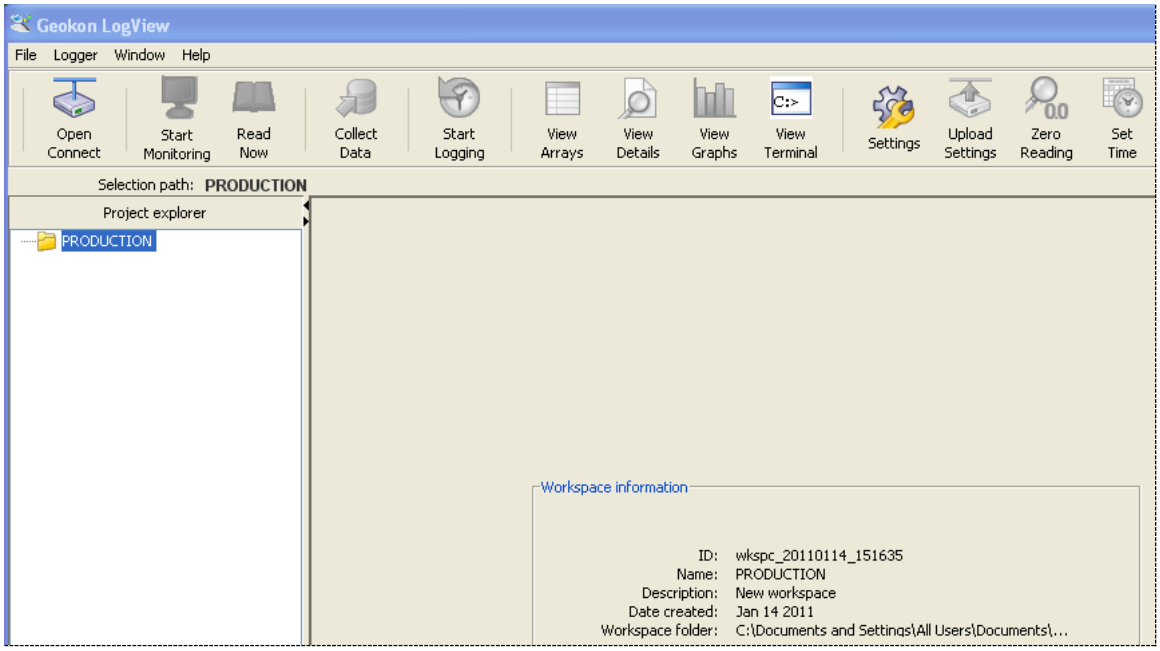


Figure 5 - Main Window

LogView "Project" objects can be added to a workspace by right-clicking on the workspace and using the menu tools (see Figure 6).

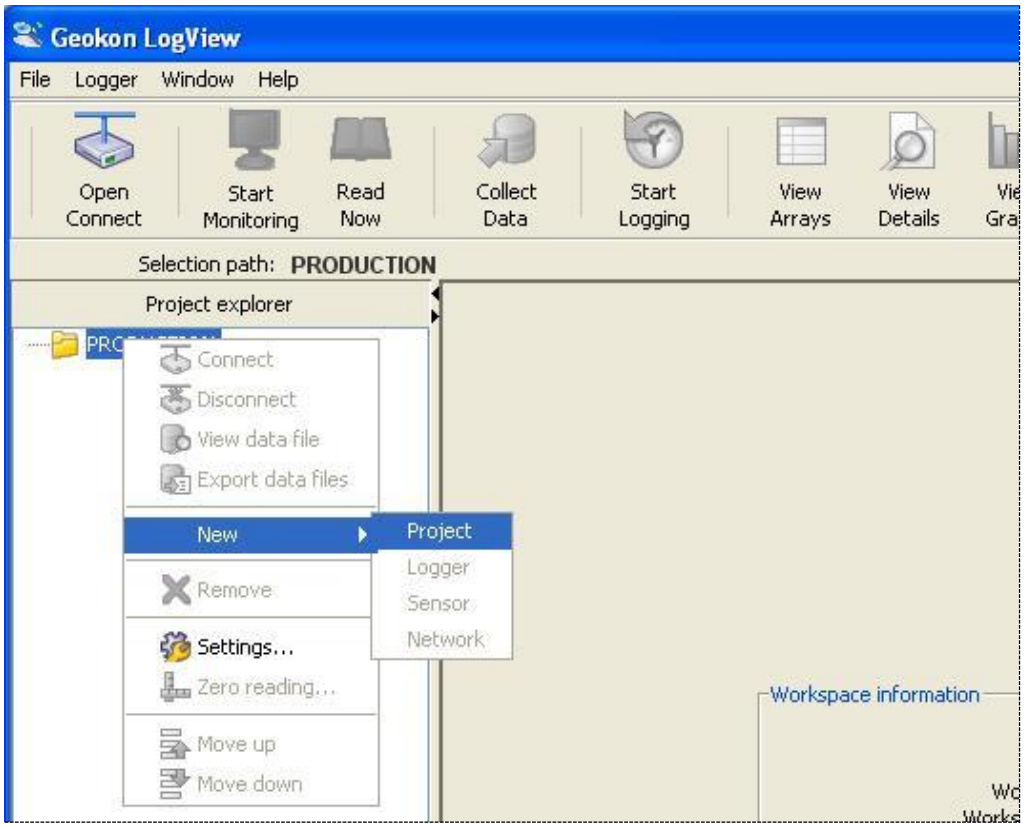


Figure 6 - Context Menu

When adding new projects, a dialog box is displayed, giving the user an opportunity to name and add a description for the new project (see Figure 7):

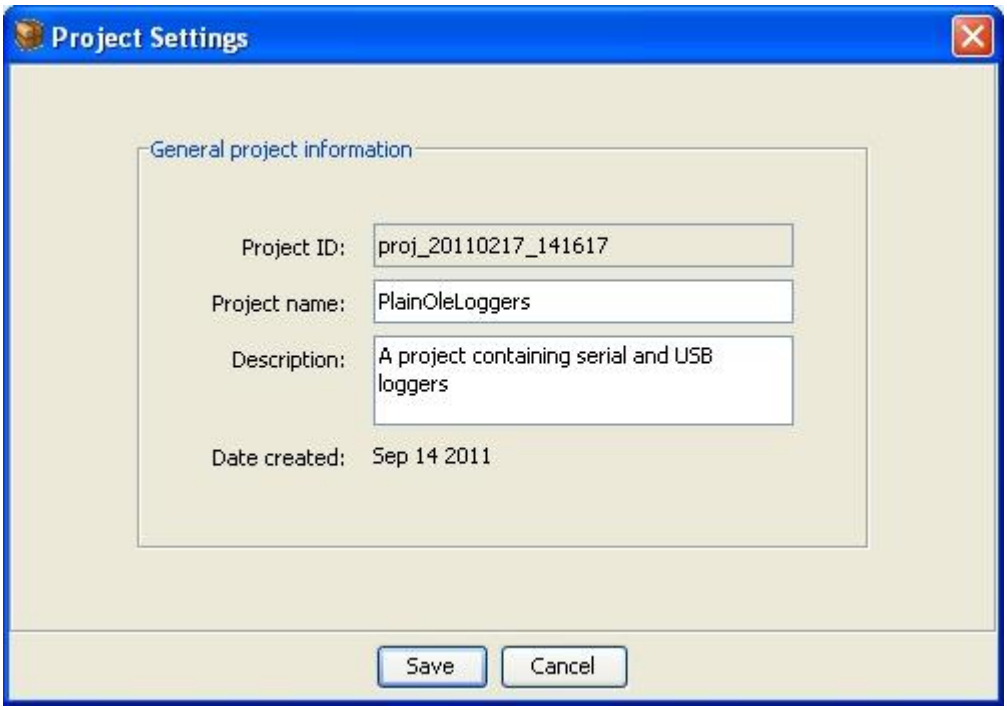


Figure 7 - Project Settings

Figure 8 below shows an example of the Project Explorer after a project has been added:

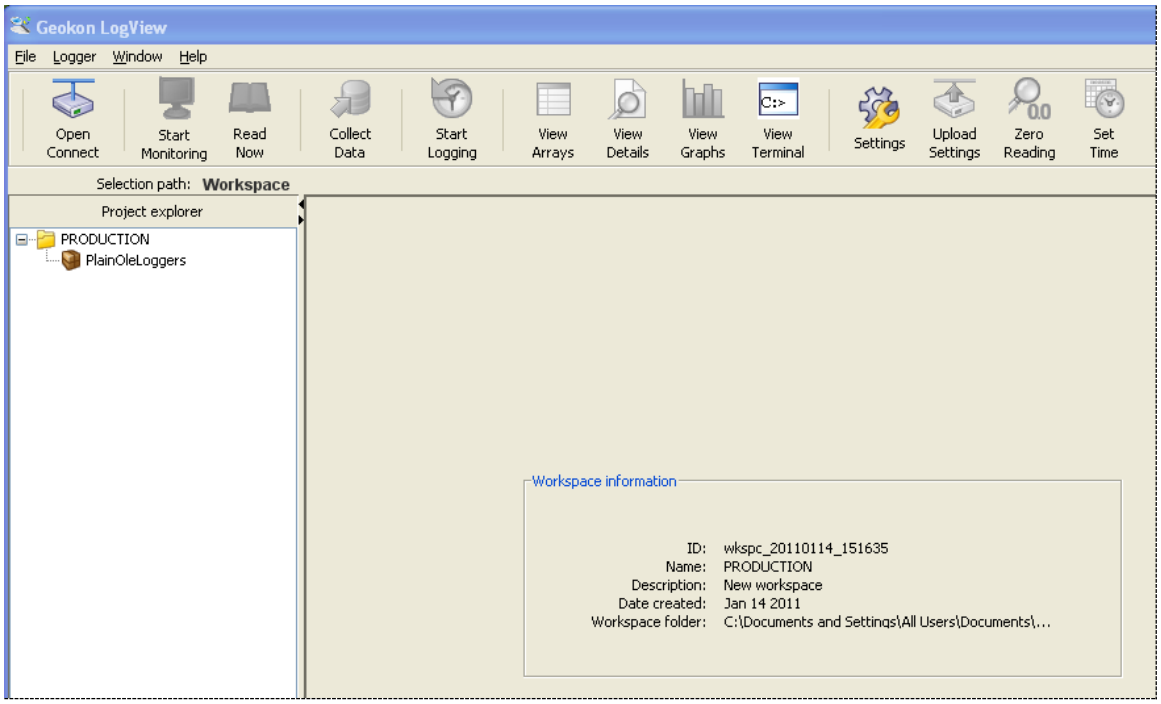


Figure 8 - Project Explorer with Project added

In a similar fashion to adding Projects to Workspaces, Dataloggers can be added to Projects by right-clicking on the Project icon in the Project Explorer and clicking on “New”, then “Logger” from the resulting context menu. This causes the Datalogger Settings window to be displayed (see figure 9). See section 2.3.5 (8002-4-3 and 8002-16-3) or 3.3.5 (8002-1-3) in the Geokon Datalogger Instruction Manual as well as the on-line help topic “Working with Dataloggers” for more details on adding dataloggers to projects.

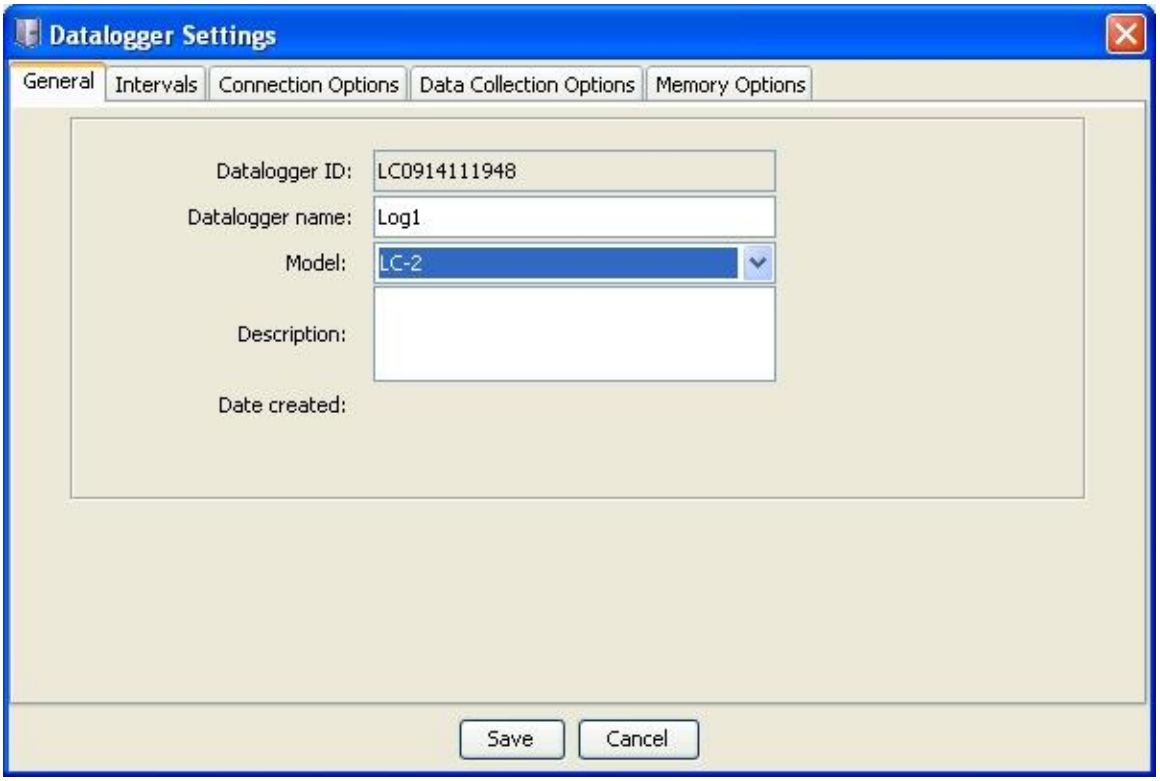


Figure 9 - Datalogger Settings

Figure 8 above, illustrates the General Setting tab and allows entry of various settings such as, name, model and description. All of the settings for a datalogger are broken up into sections accessed by clicking on the appropriate tab (see above). After the settings from all the tabs have been entered, click on “Save” to create the new logger. (See figure 10 below.)

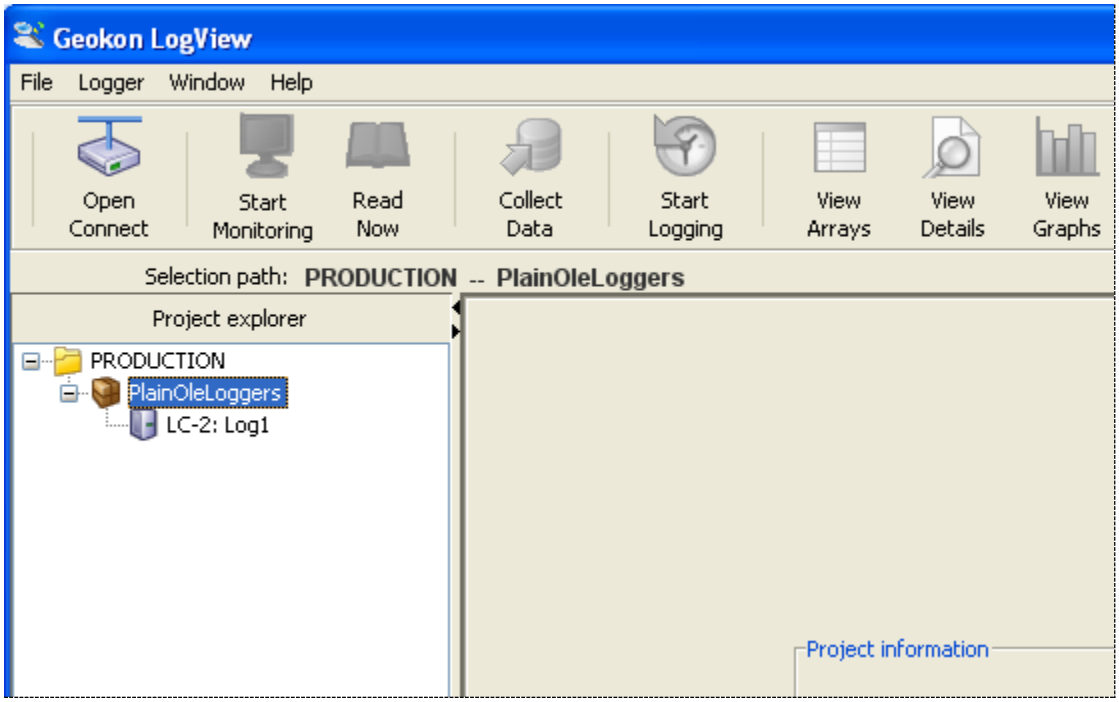


Figure 10 - Workspace, Project and Datalogger

A Sensor is the final element that needs to be added to define the complete configuration of a data logging system. Just as Dataloggers were added to Projects, Sensors can be added to Dataloggers by right-clicking on the Datalogger icon in the Project Explorer and clicking on "New", then "Sensor" from the resulting context menu (see figure 11).

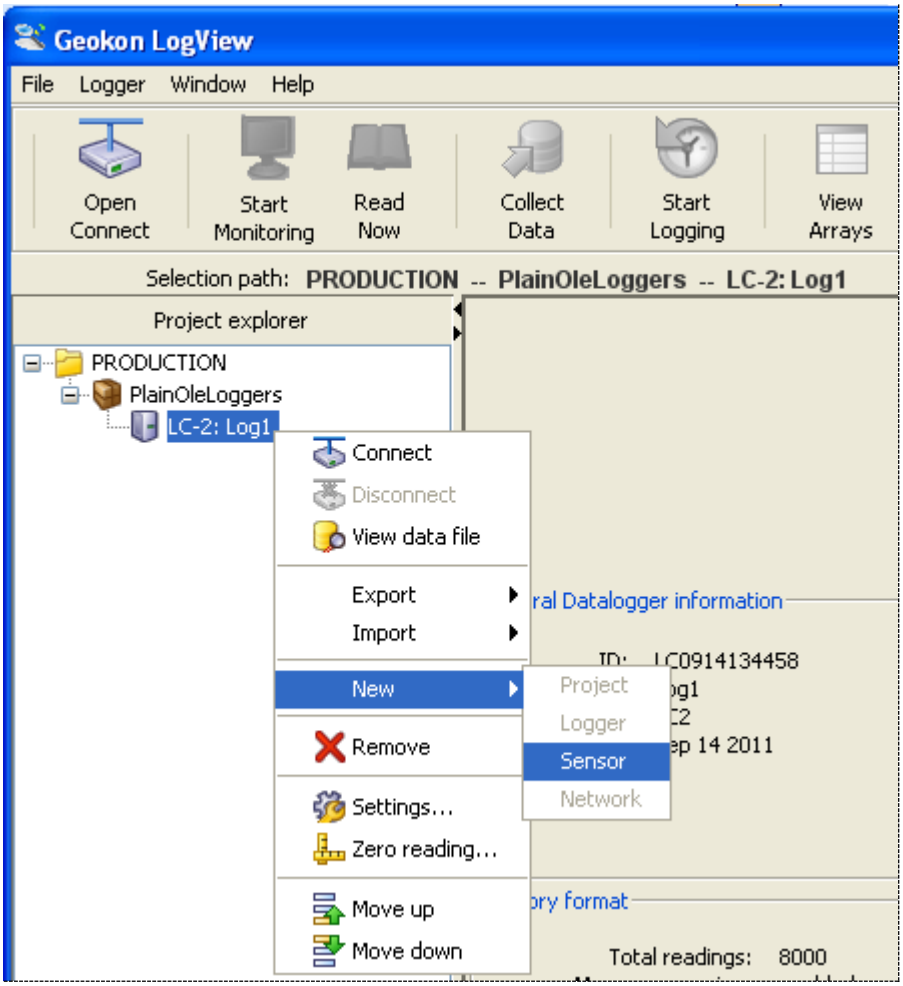


Figure 11 - Adding a Sensor

This causes the Sensor Settings window to be displayed (see figure 12 below). This window allows one sensor's parameters to be modified or multiple sensors' parameters. The number of channel selection "buttons" on the left hand side of the window depends on the type of datalogger that the sensor(s) are being added to. See section 3.8 (8002-4-X and 8002-16-X) or 4.6 (8002-1-X) in the Geokon Datalogger Instruction Manual as well as the on-line help topic "Working with Sensors" for more details on adding sensors to dataloggers.

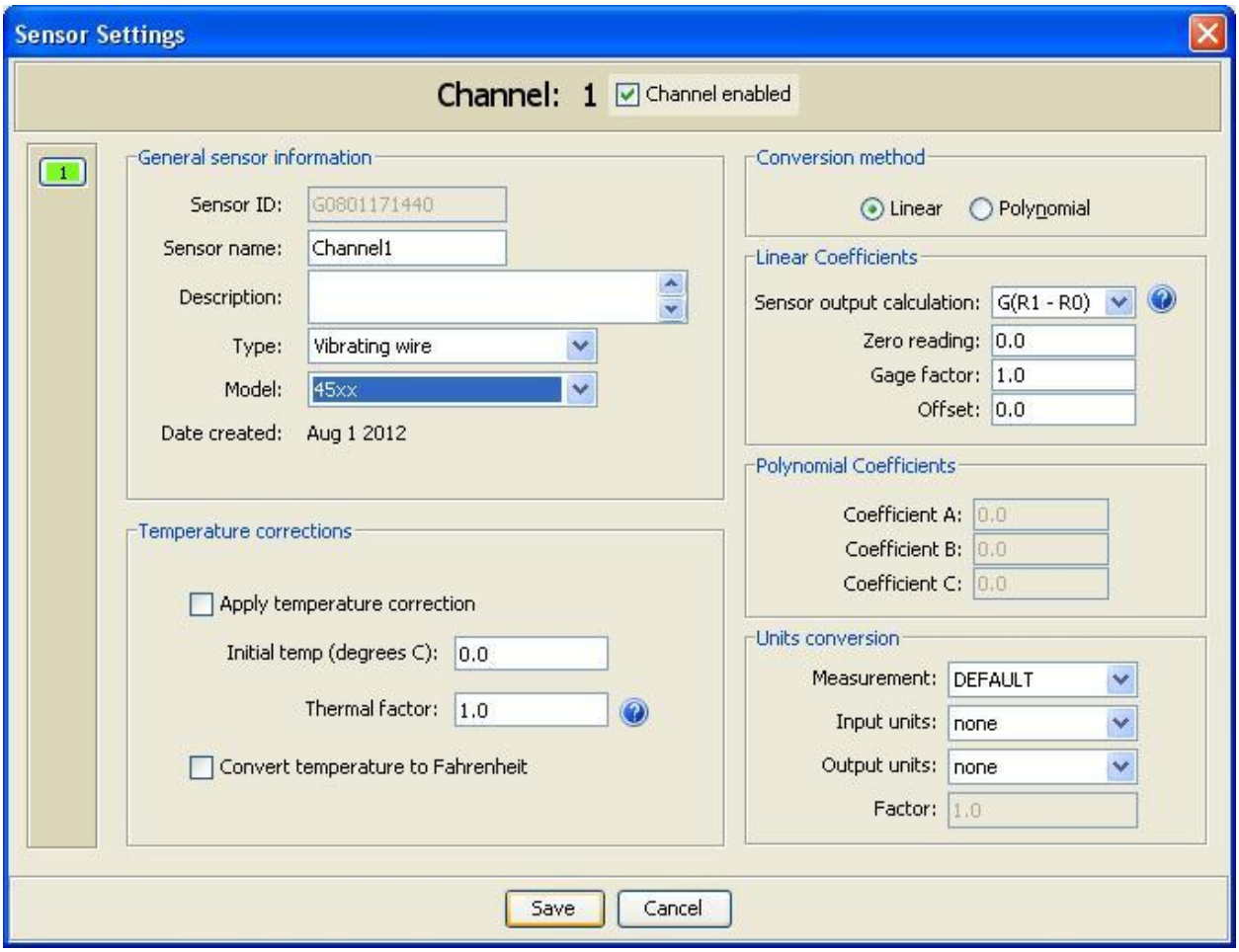


Figure 12 - Sensor Settings

Note the blue round "button" next to the Output calculation drop-down box in the Linear Coefficients section of the Sensor Settings. Clicking the button will display the following dialog box (See figure 13):

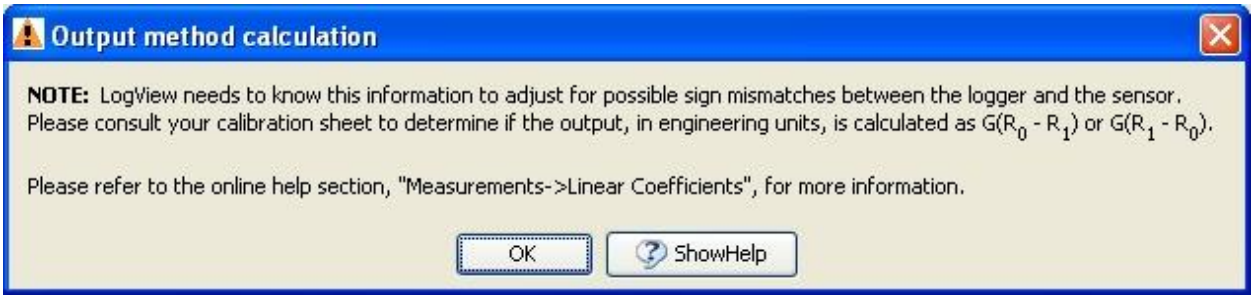

Output method calculation
NOTE: LogView needs to know this information to adjust for possible sign mismatches between the logger and the sensor. Please consult your calibration sheet to determine if the output, in engineering units, is calculated as G(R0 - R1) or G(R1 - R0).
Please refer to the online help section, "Measurements->Linear Coefficients", for more information.
OK
ShowHelp

Figure 13 - Output calculation method help dialog

This dialog box is shown to inform the user that the output calculation method must be selected based on information contained in the calibration sheet. For all sensors calibrated after 11-02-2011, the change (from the zero value) in digits, multiplied by the gage factor to get engineering units, is calculated as the Current Reading (**R1**) minus the Initial Reading (**R0**).

For some sensors, prior to the above date, the calculation was performed as **R0 - R1**.

Based on the entered calculation method, LogView can adust the sign of the gage factor accordingly, allowing the user to directly enter the gage factor from the calibration sheet.

In the Temperature corrections section of Sensor Settings, if "Apply temperature corrections" is checked, the blue round "**?**" button is enabled and if clicked displays the following (see figure 14):

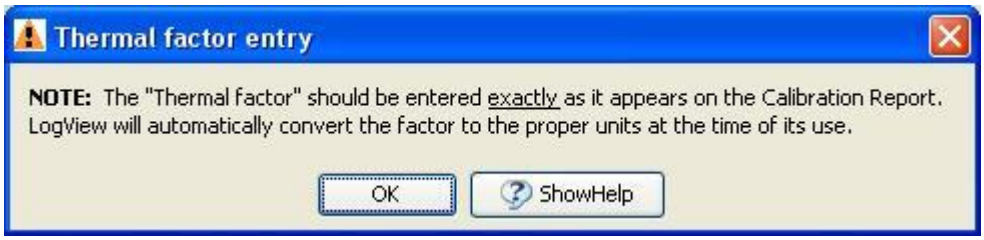

Thermal factor entry
NOTE: The "Thermal factor" should be entered exactly as it appears on the Calibration Report.
LogView will automatically convert the factor to the proper units at the time of its use.
OK
ShowHelp

Figure 14 - Thermal factor help dialog

In previous versions of LogView, the Thermal factor needed to be converted to Fahrenheit units if the "Convert temperature to Fahrenheit" checkbox was checked. After LogView 2.1.1.0029, this is no longer necessary.

If "Apply temperature corrections" is checked AND a "Units conversion factor" greater than 1.0 is displayed then the following warning will be displayed in the Temperature corrections section (see figure 15):

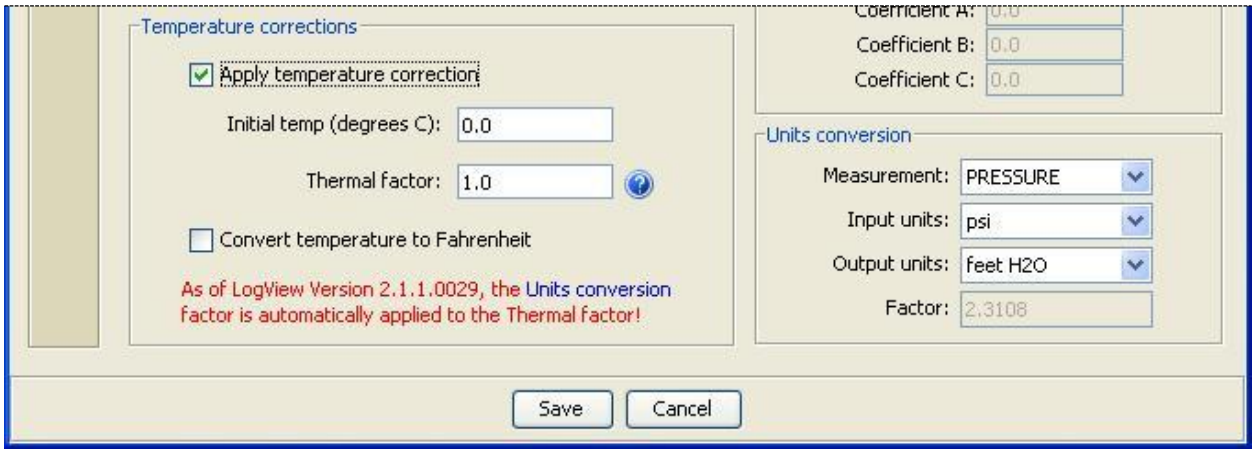


Figure 15 - Units conversion application warning

In previous versions of LogView, the Thermal factor was not automatically multiplied by the "Units conversion factor" (see the Units conversion section). After LogView 2.1.1.0029, this will happen automatically.

Figure 16 illustrates the "PRODUCTION" workspace with the project "PlainOleLoggers". In the Project Explorer, you can see that the "PlainOleLoggers" project is expanded and it contains a datalogger named "Log1" (LogView prefixes datalogger names with the datalogger type). Also notice that "Log1" has a sensor "Channel1" defined for it (LogView prefixes sensor names with the channel number CHn).

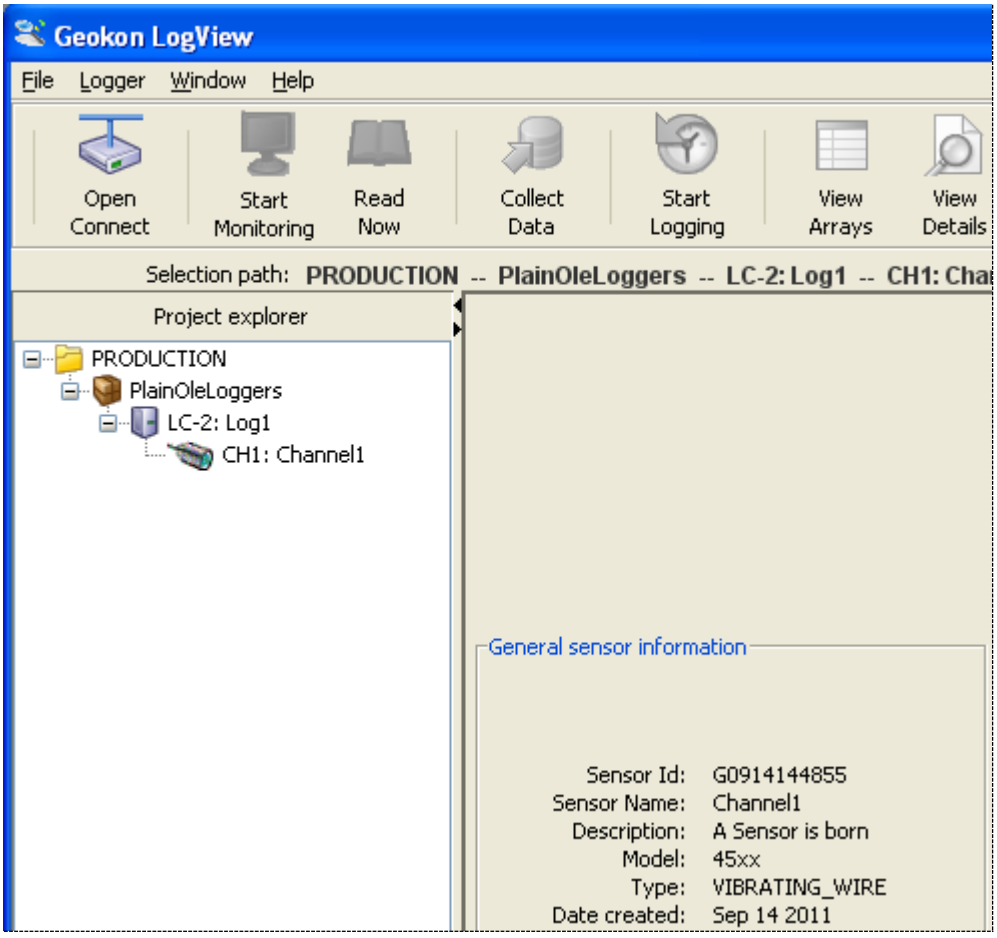


Figure 16 - Workspace, Project, Datalogger and Sensor

Each Project element, such as Dataloggers and Sensors, have "settings" associated with them. Once again, by right-clicking the element in the Project Explorer you can edit the Datalogger and Sensor settings - modifying parameters such as COM port settings, Gage Factors, etc.

LogView has a built-in help system which is available at all times by pressing the “Help” Toolbar button, the “F1” key or by accessing the “Help topics” menu item from the Main Menu.

3. Connecting to a Datalogger

3.1 LC-2 RS-232 Connection (8002-1-1, 8002-1A-1, 8002-4-1, 8002-16-1):

Connect the supplied LC-2 RS-232 Communications cable (COM-108) to the COM port of the LC-2 datalogger. The protective cap on the datalogger COM connector is removed by pushing in and turning. Plug the DB-9 end of the RS-232 Communications cable into the host computer's RS-232 port (either internal or external via a USB to Serial converter).

3.2 LC-2 USB Connection (8002-1-2, 8002-1A-2, 8002-4-2, 8002-16-2):

Connect the supplied LC-2 USB Communications cable (COM-109) to the USB port of the LC-2 datalogger. The protective cap on the datalogger USB connector is removed by pushing in and turning. Plug the USB-A end of the USB cable into an available USB-2.0 port on the host computer.

NOTE: On certain PCs with operating systems older than XP, Service Pack 3, an 8002-X-2 may require the installation of a driver to properly communicate with the PC. If the PC does not recognize the datalogger's internal USB to serial converter then the driver may be installed by executing the program, CDM2xxxx, from the LogView Install folder.

3.3 Determining COM Port Numbers:

When connecting an 8002-1-1 or 8002-1A-1 datalogger to a PC with an internal serial port(s) the COM Port number that LogView requires is usually COM1 or COM2 but, occasionally may be COM3 if the PC has more than one internal serial port. Figure 17 below illustrates that the PC has 2 serial ports, one internal (COM1) and the other via a USB to serial converter (COM13).

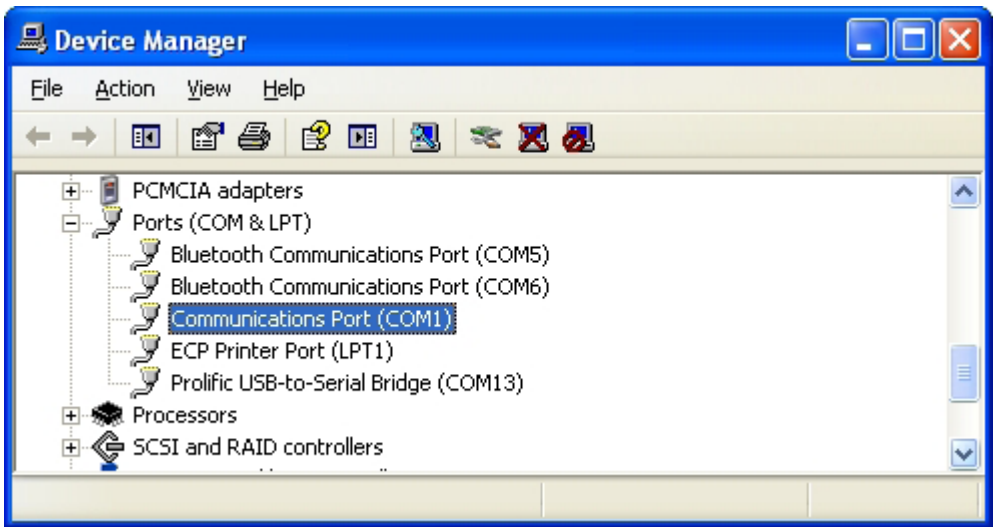


Figure 17 - RS-232 Serial COM Ports

When connecting an 8002-1-2 or 8002-1A-2 datalogger to a PC, the COM Port number that LogView requires can be any number and depends on how many other devices are attached to the PC such as, internal serial ports and Bluetooth devices.

The figure below (see figure 18) illustrates that the PC has 3 serial ports, one internal, COM1 and the other two via USB to serial converters, COM13 and COM3.

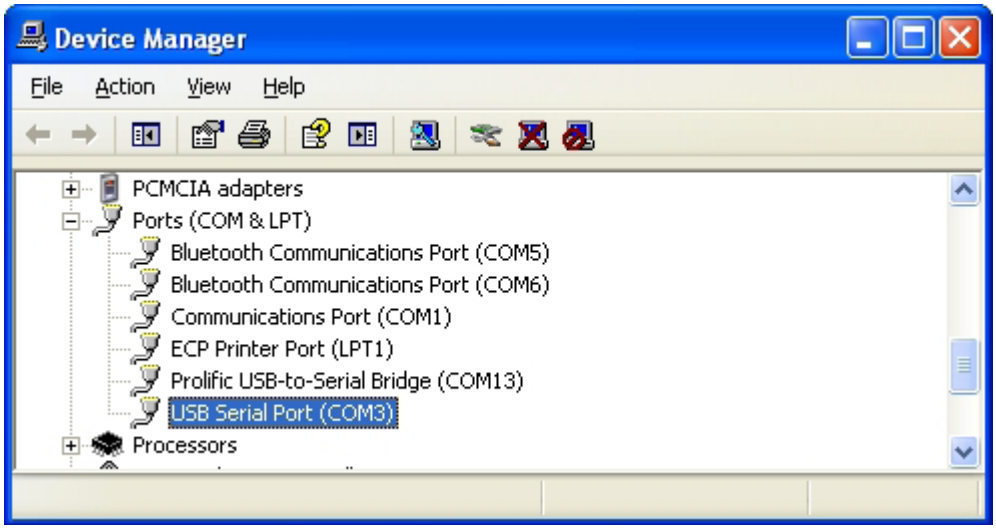


Figure 18 - USB COM Ports

HINT: With the Device Manager (above) open, an easy way to determine which COM port an 8002-1-2 datalogger is attached to is to disconnect the cable and see which COM device disappears from the Device Manager Ports list.

3.4 Establishing a Connection:

After determining the appropriate COM Port for a datalogger, a LogView connection can be established by following the steps below:

1. For USB dataloggers (8002-X-2), always make sure the USB end of the COM-109 cable is plugged into the PC and that the other end is attached to the datalogger.

2. Select a previously created Datalogger object from the Project Explorer and click on the "Settings" button from the LogView Toolbar. Alternately, a "new" Datalogger can be created by right-clicking a "Project" in the Project Explorer and selecting "New" then "Logger" from the resulting context menu. The Datalogger Settings dialog should be displayed (see figure 19).

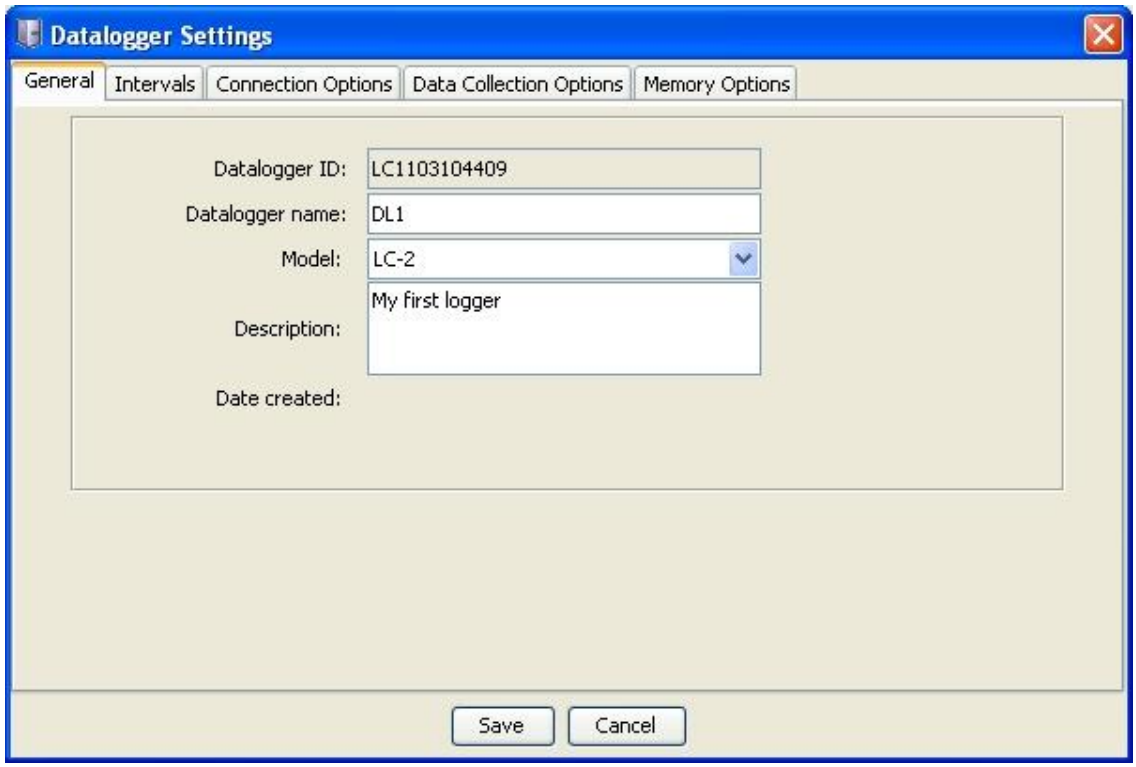


Figure 19 - Datalogger Settings

3. Click on the "Connection Options" tab to display the settings required to establish a datalogger connection (see figure 20).

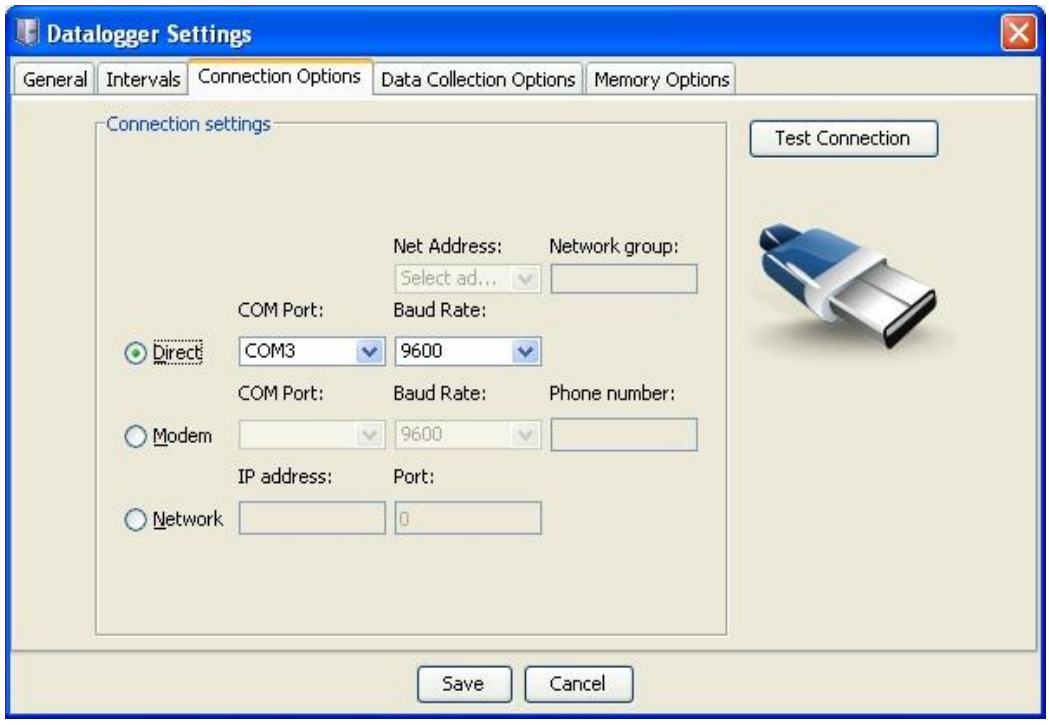


Figure 20 - Connection Options

4. Make sure the “Direct” radio button is enabled and select a COM port corresponding to the datalogger connection as determined in section 3.3. For single channel LC-2 dataloggers with firmware versions less than V5.0.X, the proper “Baud Rate” setting will be 9600. When done, click the “Save” button. (See the datalogger’s user manual for more information regarding baud rate options.)

5. Click on the “Open Connect” button from the toolbar to create a connection from LogView to the selected datalogger. After several seconds, LogView should respond with a “Connected” status in the lower left hand corner of the screen.

   NOTE: It’s very likely, when connecting for the first time to a new datalogger, that the following dialog box will be displayed (see Figure 21). This is normal and simply indicates that the Datalogger ID field that LogView assigns does not match the value in the physical datalogger. In most cases simply click on “Continue” to finish connecting to the datalogger.

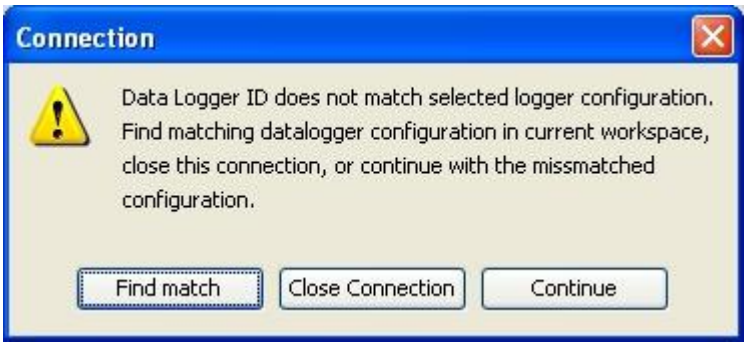


Figure 21 - Connection Warning Message

6. Upload the recently modified settings to the selected datalogger by clicking on the “Upload Settings” button from the toolbar.

7. Close the connection by clicking on the “Close Connect” button from the toolbar.

4. Collecting and viewing data

Before any data is collected, ensure your "Data Collection Options" have been configured for your project (Figure 22.). These can be found by selecting your datalogger and either right clicking, then selecting "Settings," or clicking the "Settings" button in the Toolbar. Choose the "Data Collection Options" tab to configure your settings.

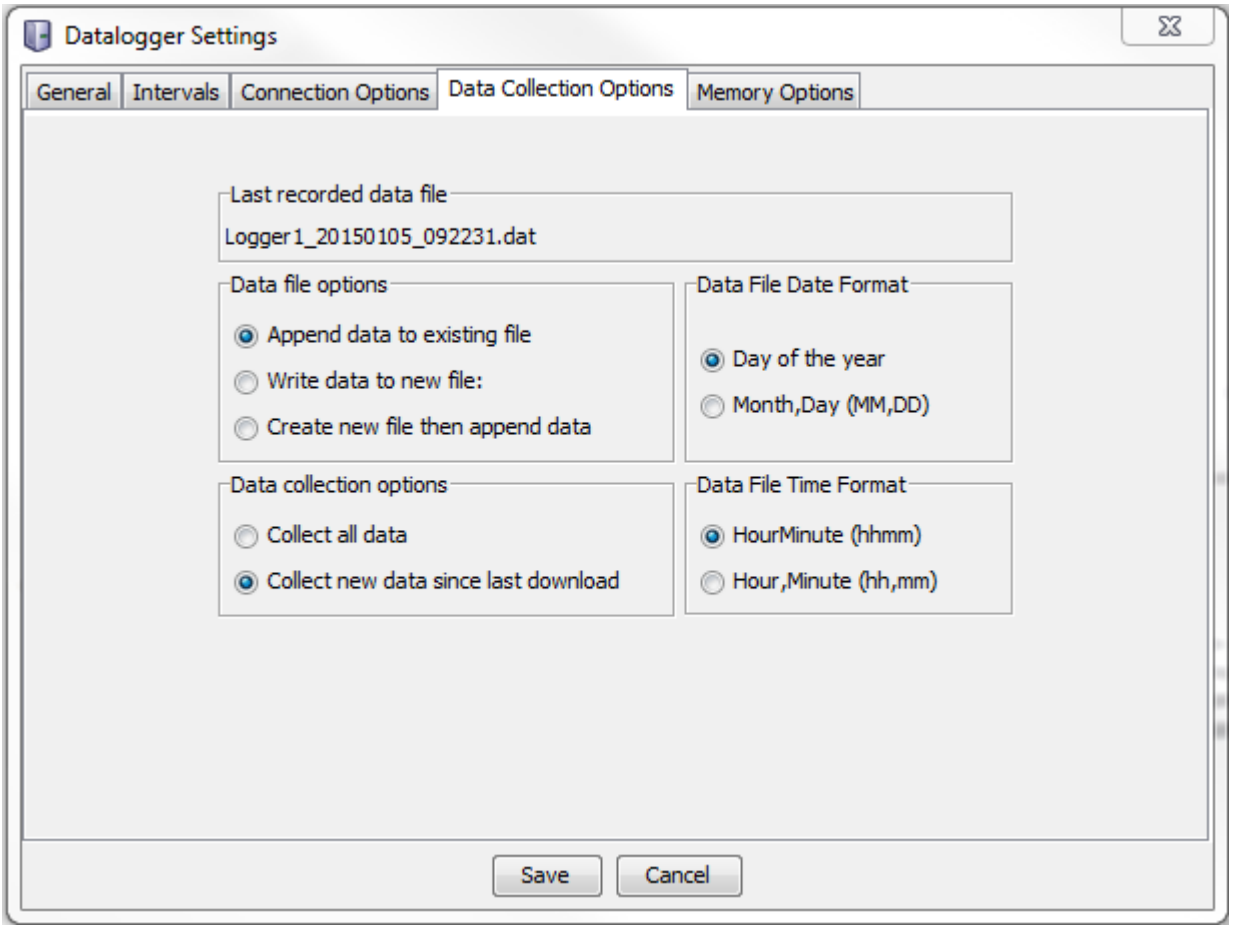


Figure 22 - Data Collection Options

Upon successful connection to a datalogger, the “Collect Data” button will be enabled in the toolbar, otherwise it is greyed out (Figure 23.)

NOTE: Once connected to a datalogger, you cannot select a different datalogger without first closing the active connection. Also, data cannot be collected from a logger that is not connected.

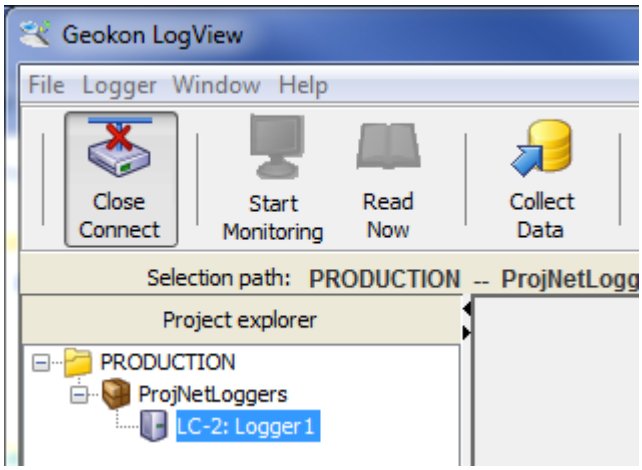


Figure 23: Collect Data button enabled

When ready to collect your data, click the “Collect Data” button to begin collecting data. You will see a “Progress…” message indicating that new data is downloading (Figure 24.)

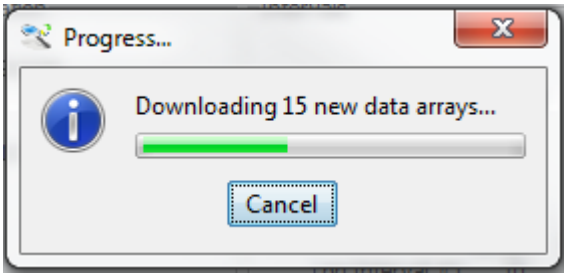


Figure 24 - New data downloading

Upon successful collection of data you will see a “Data collection complete!” message (Figure 25.)

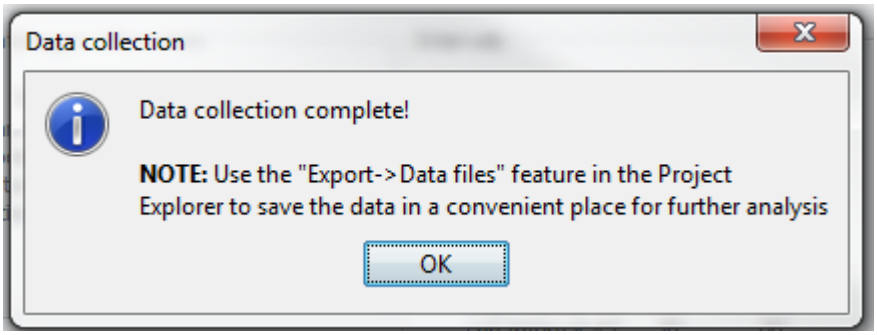
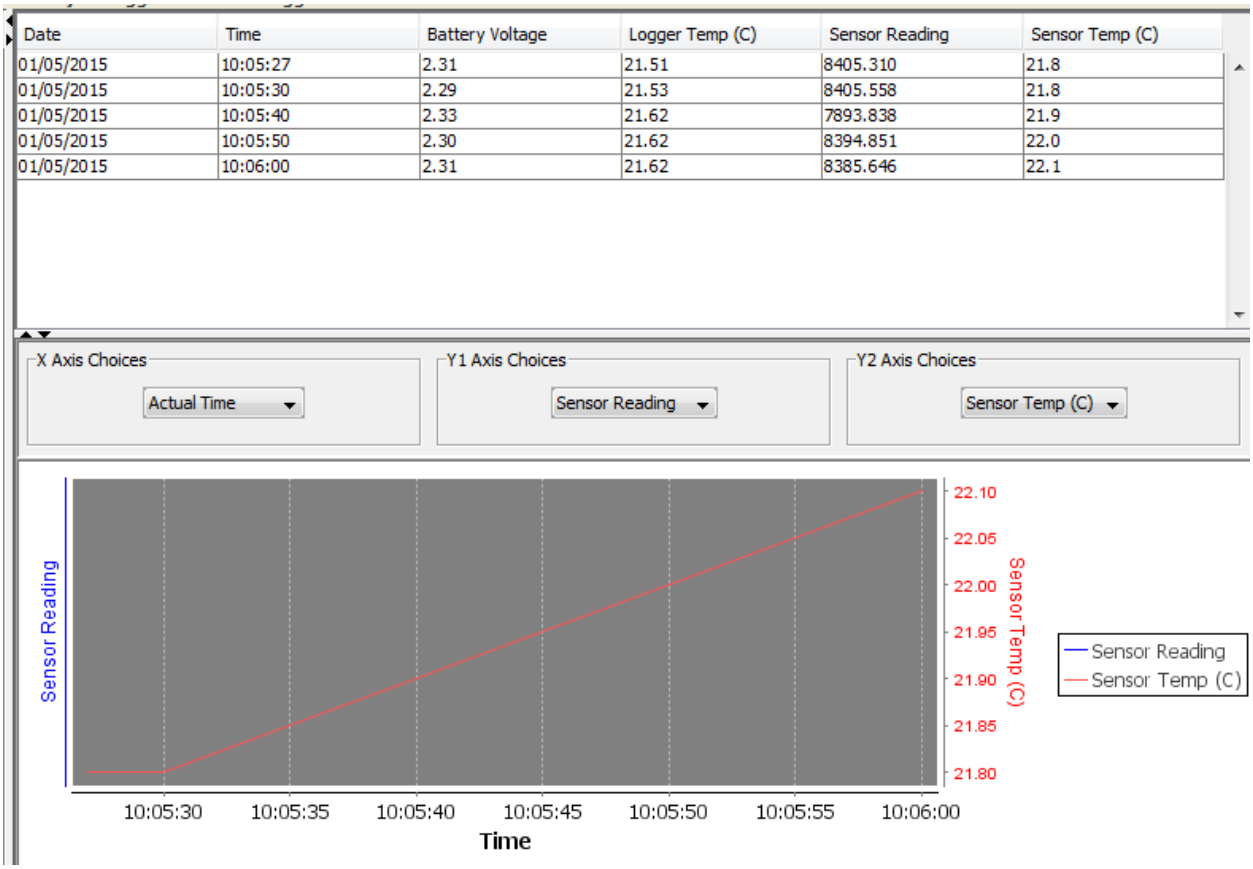

Data collection
Data collection complete!
NOTE: Use the "Export->Data files" feature in the Project Explorer to save the data in a convenient place for further analysis
OK

Figure 25 - Data collection complete message

To view the collected data inside of LogView, right click on the desired datalogger and choose “View Data File.” Next you will see a window showing “Available data files,” choose the data file you want to view and click the “View” button. The data will be shown as a table with column headers and will also be shown as a graph below the table (Figure 26.)



Date	Time	Battery Voltage	Logger Temp (C)	Sensor Reading	Sensor Temp (C)
01/05/2015	10:05:27	2.31	21.51	8405.310	21.8
01/05/2015	10:05:30	2.29	21.53	8405.558	21.8
01/05/2015	10:05:40	2.33	21.62	7893.838	21.9
01/05/2015	10:05:50	2.30	21.62	8394.851	22.0
01/05/2015	10:06:00	2.31	21.62	8385.646	22.1

Figure 26 - Viewing data inside of LogView

To view the collected data outside of LogView, select the desired datalogger, right click on it, select “Export” > “Data Files” (Figure 27.)

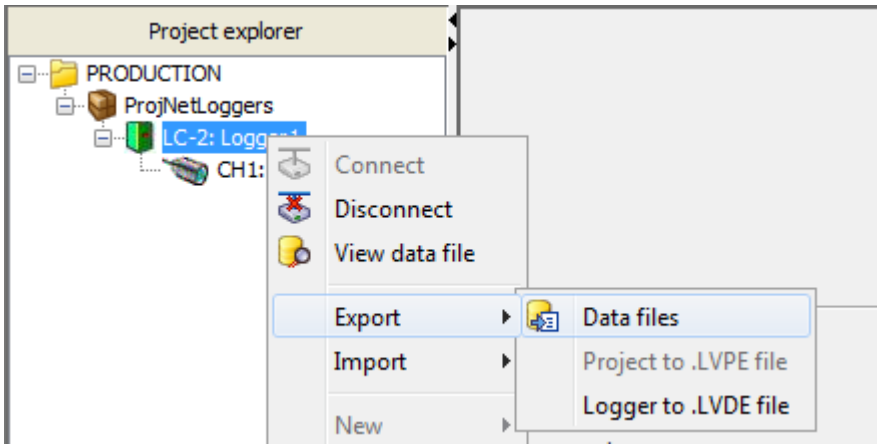


Figure 27 - Export data files menu

A “Data Export” window will open where you can choose your export settings (Figure 28.) You must choose your “Export folder” and “Export File Format.” The “Export Format Options” are optional. Next select a file from the “Available files:” pane and choose one of the arrow buttons to move the file to the “Selected for export” pane. When your settings are complete, click the “Export” button at the bottom of the window to finish the data export. You will see a message indicating the “Data export completed.”

NOTE: When a file is selected it will be highlighted in blue. To see the functions of the arrow buttons, hover the mouse over them for a tool tip.

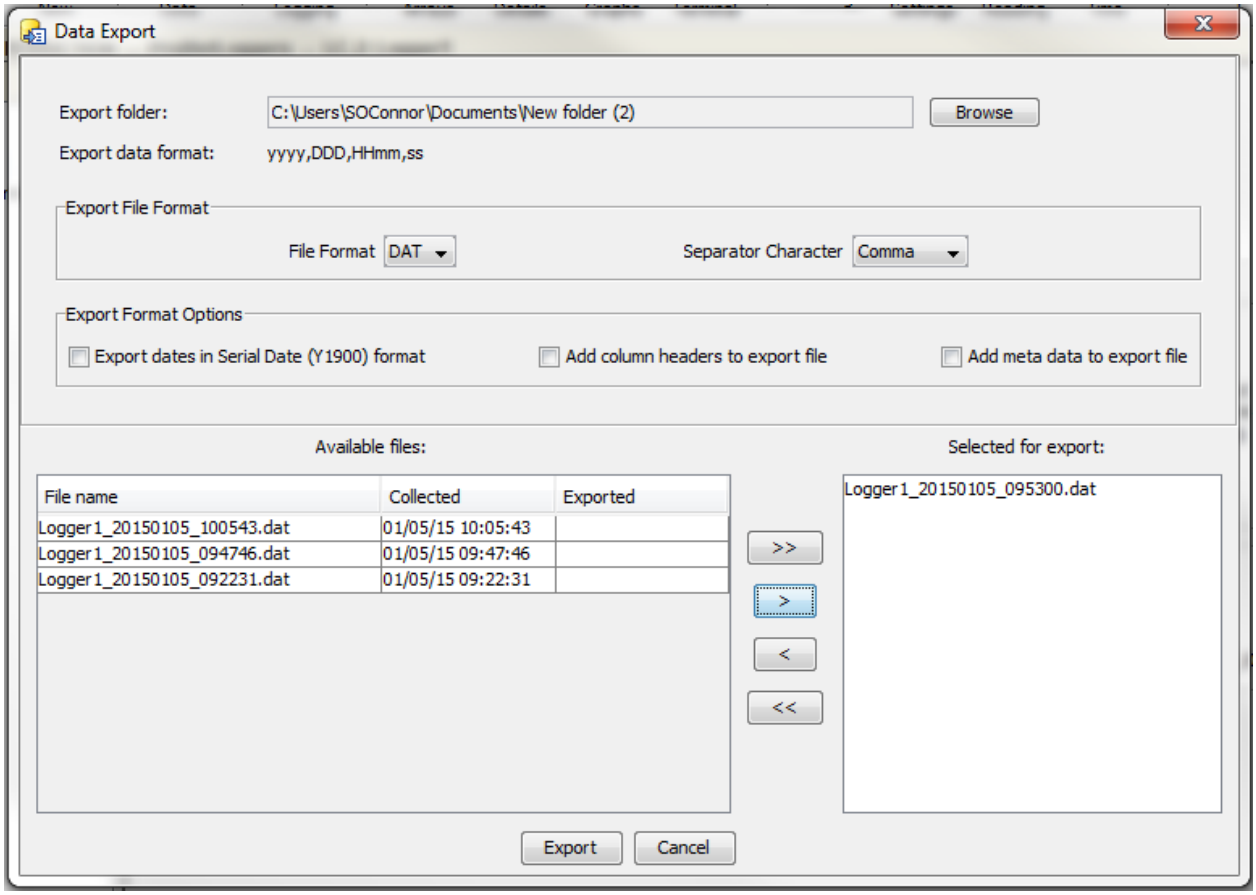


Figure 28 - Data Export settings

You will now be able to view your collected data with your chosen settings in the program of your choice.

5. Creating a Datalogger Network (RS-485)

Under the project “ProjNetLoggers” is another type of project object: the Network Group object. A network group object contains all dataloggers that are to be “networked” together via an RS-485 communication link. As above, right-clicking a project object calls up a context menu, allowing a Network Group object to be added to the project.

Right-clicking a Network Group object calls up a context menu, allowing dataloggers to be added under the Network object.

Figure 29 below illustrates a typical datalogger “network”. In the Project Explorer, you can see that the "ProjNetLoggers" project is expanded and contains a Network group object called “RS485 Loggers”. Under “RS485 Loggers” are the networked dataloggers, "DL1” and “DL2”. Also notice that both dataloggers have sensors defined.

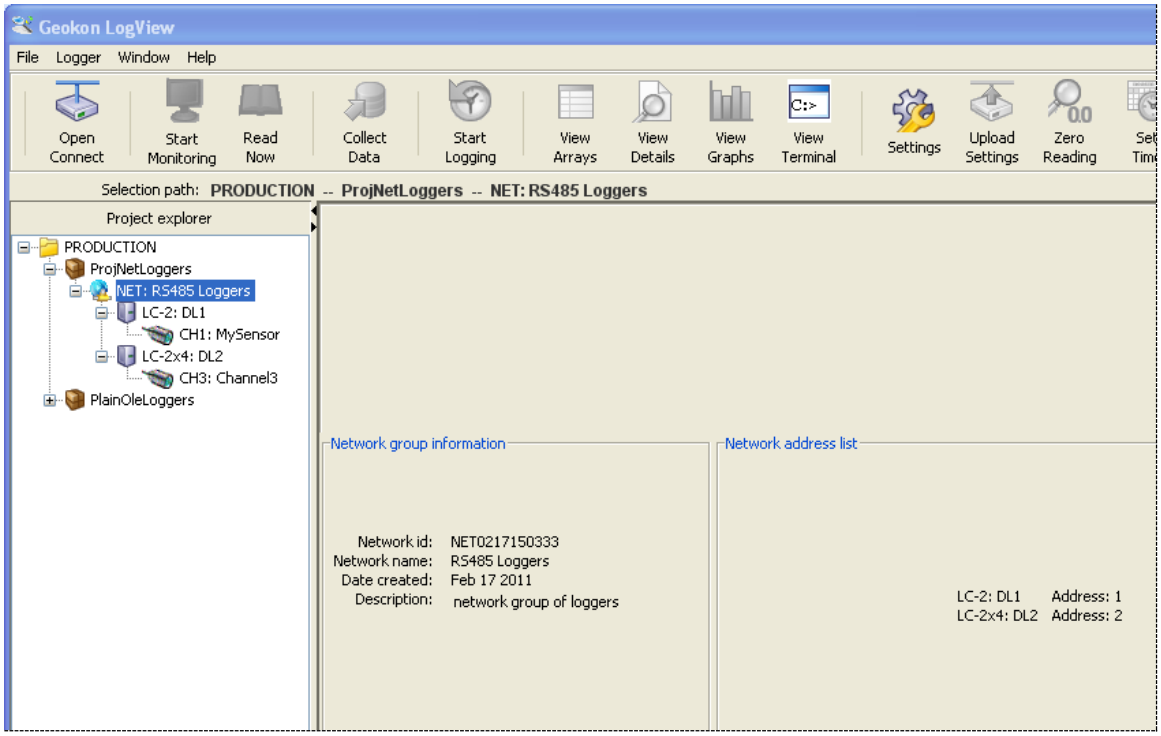


Figure 29 - Network Group

The sections below describe how to connect and communicate with networked dataloggers.

6. Connecting to Networked Dataloggers

A minimum of 6 components are required to create a network of (2) dataloggers:

Item	Description
1	8002-5: USB to RS-485 Conversion Module.
2	COM-109: USB cable needed communicate with item 1.
3	8002-1-3, 8002-4-3 or 8002-16-3: **Datalogger1** - One, four or sixteen channel datalogger with RS-485 option.
4	8002-1-3, 8002-4-3 or 8002-16-3: **Datalogger2** - One, four or sixteen channel datalogger with RS-485 option.
5	8002-1-3A: RS-485 Interconnect Cable. Connects item 1 with item 3.
6	8002-1-3A: RS-485 Interconnect Cable. Connects item 3 with item 4.

Table 1 – Minimum Components for RS-485 Logger Network

In LogView, after adding two Datalogger objects to the Network Group object, and before connecting the above components together as a network, each datalogger needs settings uploaded to it. This is accomplished using the following steps:

1) Connect one end of the COM-109 cable to the first datalogger's "Network In" connector and the other end to a free USB port on the PC. After selecting one of the networked Datalogger objects in the Project Explorer, click on the "Settings" button from the toolbar. The dialog box below will be displayed:

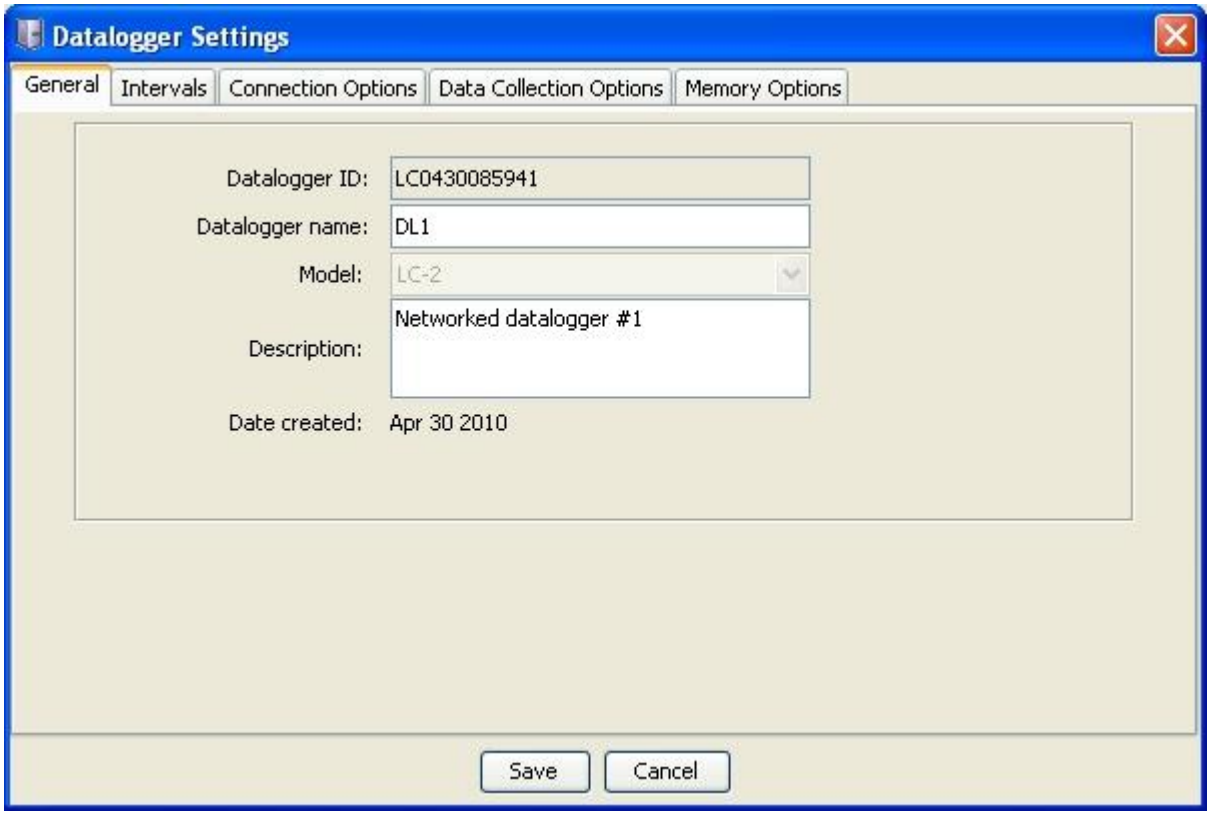


Figure 30 - Networked Datalogger Settings

2) Clicking on the "Connection Options" tab above will cause the dialog box below to be displayed:

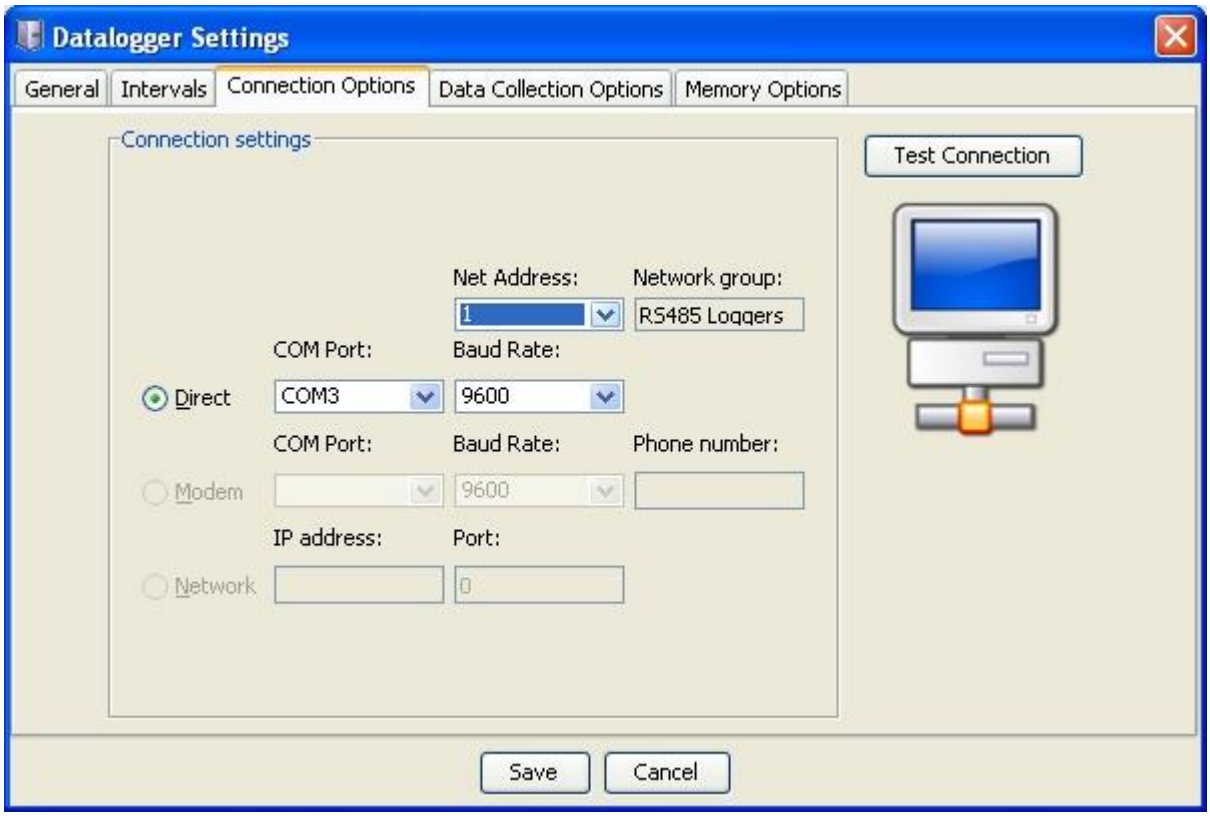


Figure 31- Network Connection Option

3) Select a COM port corresponding to the datalogger connection - see section 2.3.10 (8002-4-3 and 8002-16-3) or 3.3.9 (8002-1-3) in the Geokon Datalogger Instruction Manual for more information on how to determine the appropriate COM port. Note that the network group for this datalogger has already been filled in.

4) The network address now needs to be set. Set the "Net Address" to the appropriate value; "1" for the first logger, "2" for the second, etc. It's a good idea to label the datalogger and also name it in such a way that it is easy to remember which Datalogger object matches with which physical datalogger. When done click on the "Save" button.

5) Click on the "Open Connect" button from the toolbar to create a connection from LogView to the selected datalogger. After several seconds, LogView should respond with a "Connected" status in the lower left hand corner of the screen.

   NOTE: It's very likely, when connecting for the first time to a new datalogger, that a warning dialog box will be displayed (see Figure 21.) This is normal and simply indicates that the Datalogger ID field that LogView assigns does not match the value in the physical datalogger. In most cases simply click on "Continue" to finish connecting to the datalogger.

6) Upload the recently modified settings to the selected datalogger by clicking on the "Upload Settings" button from the toolbar.

7) Close the connection by clicking on the "Close Connect" button from the toolbar.

Now remove the COM-109 connection from the first data logger, attach it to the second and repeat steps 1 - 7 for next datalogger.

After the settings have been uploaded for all dataloggers in the network group, connect the components together as shown in the diagram below:

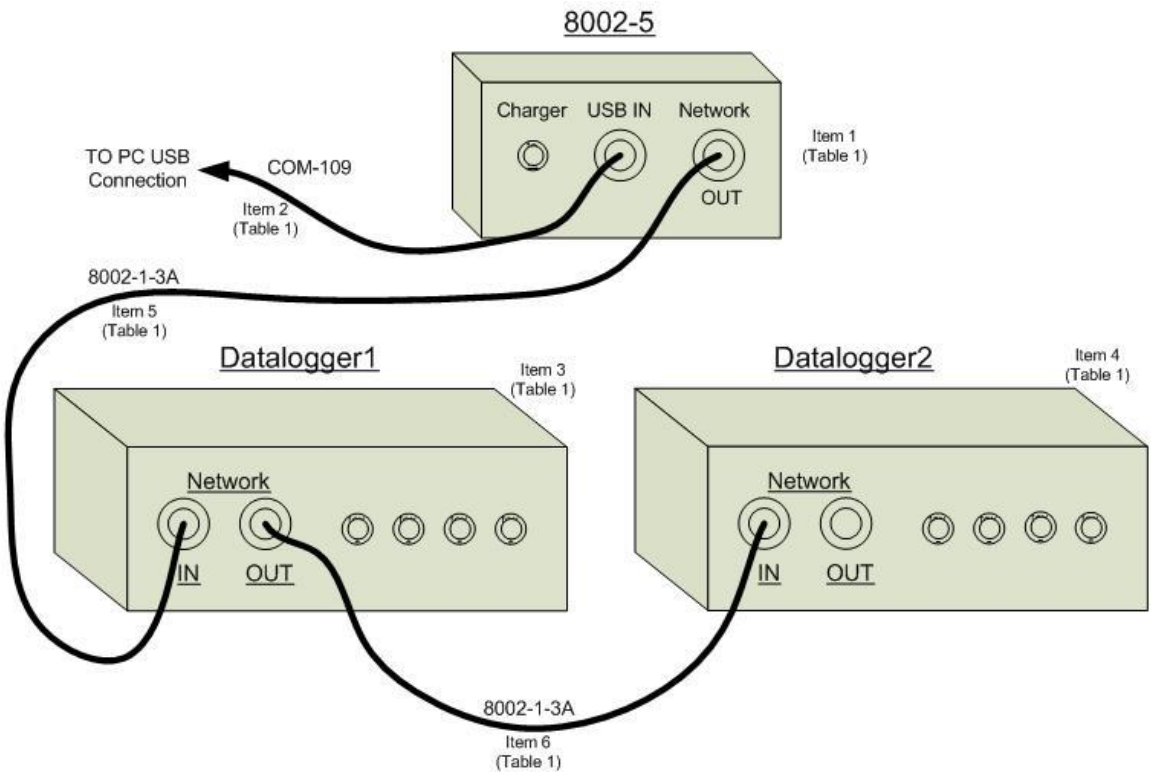


Figure 32 - Network Group Component Connections

The network group has now been setup and all attached dataloggers should be able to be accessed via LogView through the one USB connection.

NOTE: The last datalogger in the network must be terminated for proper operation. The termination procedure is described in the Datalogger Instruction Manual – Appendix F.